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PATENT

Docket No.: 19603/3431 (CRF D-2585A)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s) : Harman et al. )  
Serial No. : 09/927,984 )  
Cnfrm. No. : 5985 )  
Filed : August 10, 2001 )  
For : PRODUCTION AND USE OF INDUCIBLE )  
ENZYMES FROM TRICHODERMA AND )  
BACTERIA FOR CONTROL OF PLANT )  
PESTS AND FOR INDUSTRIAL PROCESSES )

Examiner:  
Unknown

Art Unit:  
1623

U.S. Patent and Trademark Office  
P.O. Box 2327  
Arlington, Virginia 22202


Dear Sir:

Transmitted herewith in the above-identified application are:

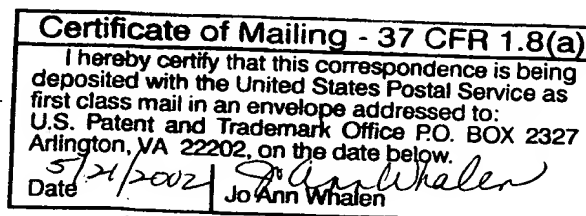
- ☒ Information Disclosure Statement Under 37 C.F.R. §§ 1.97-1.98 (1 page);
- ☒ PTO-1449 (4 pages)(in duplicate) and 32 references; and
- ☒ Copy of International Search Report for the corresponding PCT application.

A duplicate copy of this sheet is enclosed.

Date: May 21, 2002

  
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INFORMATION DISCLOSURE STATEMENT  
UNDER 37 CFR §§ 1.97-1.98

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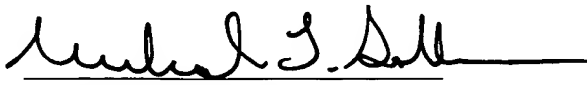
Dear Sir:

Pursuant to 37 CFR §§ 1.97-1.98, applicants hereby bring to the attention of the United States Patent and Trademark Office, the enclosed references listed on the attached PTO-1449 form. References 5, 16, and 17 were cited in the International Search Report (copy enclosed) for the corresponding PCT application.

Pursuant to 37 CFR § 1.97(b)(3), no fee is required. Should it be determined that a fee is required, the Commissioner is authorized to charge any additional fee to deposit account no. 14-1138.

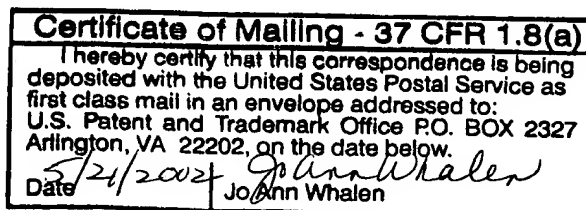
Respectfully submitted,

Date: May 21, 2002

  
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U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE  INFORMATION DISCLOSURE STATEMENT BY APPLICANT  (use several sheets if necessary) (PTO-1449)	ATTY. DOCKET NO.	SERIAL NO.
	19603/3431 (CRF D-2716A)	09/927,984
	APPLICANT	
	Harman et al.	
	FILING DATE	GROUP ART UNIT
	August 10, 2001	1623

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPRO- PRIATE
	1	5,173,419	12/22/1992	Harman et al.		
	2	5,326,561	07/05/1994	Harman et al.		
	3	5,433,947	07/18/1995	Harman et al.		
	4	6,069,299	05/30/2000	Broadway et al.		
	5	5,474,926	12/12/1995	Harman et al.		
	6	6,251,390 B1	06/26/2001	Harman et al.		
	7	5,378,821	01/03/1995	Harman et al.		
	8	5,165,928	11/24/1992	Smith et al.		

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DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION IF APPRO- PRIATE

## OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, Etc.)

	9	Galante et al., "Application of <i>Trichoderma</i> Enzymes in the Textile Industry," in Harman, G. E. and Kubicek, C. P. (eds.): <u>Trichoderma and Gliocladium</u> , London: Taylor and Francis, Vol. 2:311-325 (1998)
	10	Galante et al., "Applications of <i>Trichoderma</i> Enzymes in the Food and Feed Industries," in Harman, G. E. and Kubicek, C. P. (eds.): <u>Trichoderma and Gliocladium</u> , London: Taylor and Francis, Vol. 2:327-342 (1998)
	11	Buchert et al., "Applications of <i>Trichoderma reesei</i> Enzymes in the Pulp and Paper Industry," in Harman, G. E. and Kubicek, C. P. (eds.): <u>Trichoderma and Gliocladium</u> , London: Taylor and Francis, Vol. 2:343-363 (1998)
	12	Koivula et al., "Structure-Function Relationships in <i>Trichoderma</i> Cellulolytic Enzymes," in Harman, G. E. and Kubicek, C. P. (eds.), <u>Trichoderma and Gliocladium</u> , London: Taylor and Francis, Vol. 2:3-23 (1998)
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EXAMINER		DATE CONSIDERED
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.		

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15	Broadway et al., "Partial Characterization of Chitinolytic Enzymes from <i>Streptomyces albidoflavus</i> ," <i>Lett. Appl. Microbiol.</i> , 20:271-276 (1995)
16	Carsolio et al., "Characterization of <i>ech-42</i> , a <i>Trichoderma harzianum</i> Endochitinase Gene Expressed During Mycoparasitism," <i>Proc. Natl. Acad. Sci. USA</i> 91:10903-10907 (1994)
17	Garcia et al., "Cloning and Characterization of a Chitinase (CHIT42) cDNA from the Mycoparasitic Fungus <i>Trichoderma harzianum</i> ," <i>Curr. Genet.</i> 27:83-89 (1994)
18	Peterbauer et al., "Molecular Cloning and Expression of the <i>nag1</i> Gene (N-acetyl-β-D-Glucosaminidase-Encoding Gene) from <i>Trichoderma harzianum</i> P1," <i>Curr. Genet.</i> 30:325-331 (1996)
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21	Mach et al., "Expression of Two Major Chitinase Genes of <i>Trichoderma atroviride</i> ( <i>T. harzianum</i> P1) is Triggered by Different Regulatory Signals," <i>Appl. Environ. Microbiol.</i> 65(5):1858-1863 (1999)

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## OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, Etc.)

		22	Zeilinger et al., "Chitinase Gene Expression During Mycoparasitic Interaction of <i>Trichoderma harzianum</i> with its Host," <u>Fungal Genet. Biol.</u> 26:131-140 (1999)
		23	Harman, G.E., "The Myths and Dogmas of Biocontrol. Changes in Perceptions Derived from Research on <i>Trichoderma harzianum</i> T-22," <u>Plant Dis.</u> 84:373-393 (2000)
		24	Lorito et al., "Potential of Genes and Gene Products from <i>Trichoderma</i> sp. and <i>Gliocladium</i> sp. for the Development of Biological Pesticides," <u>Molec. Biotechnol.</u> 2:209-217 (1994)
		25	Harman et al., "Chitinolytic Enzymes of <i>Trichoderma harzianum</i> : Purification of Chitobiosidase and Endochitinase," <u>Phytopathology</u> 83(3): 313-318 (1993)
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		29	Harman et al., "Degradation of Chitin Substrates Using Enzymes Proprietary to Cornell University (Licensed to Bioworks, Inc.)," <u>Report to Biopolymer Engineering</u> pp. 1-10 (2001)
		30	Donzelli et al., "Interaction of Ammonium, Glucose, and Chitin Regulates the Expression of Cell Wall-Degrading Enzymes in <i>Trichoderma atroviride</i> Strain P1," <u>Applied and Environmental Microbiology</u> 67(12):5643-5647 (2001)
		31	Harman et al., "Digestion of Longoustino Shell Chitin with Improved Enzyme Source. A Final Report Addendum," Confidential Biopolymer Report (2001)
		32	Harman et al., "Plant Growth Promotion by <i>Trichoderma harzianum</i> ," Helsinki Trichoderma/Gliocladium Workshop Abstract (1999)
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